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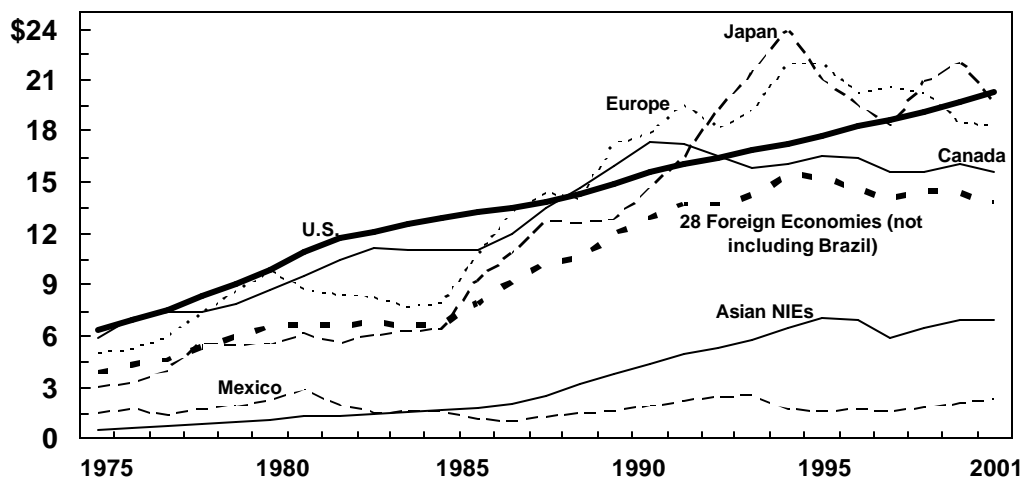
## INTERNATIONAL COMPARISONS OF HOURLY COMPENSATION COSTS FOR PRODUCTION WORKERS IN MANUFACTURING, 2001

Average hourly compensation costs in U.S. dollars for production workers in manufacturing in 29 foreign economies declined to 67 percent of the U.S. level in 2001 from 71 percent in 2000, according to the Bureau of Labor Statistics, U.S. Department of Labor. Compensation costs relative to the United States declined in Canada, Japan, and throughout most of Europe in 2001, with costs in Japan falling below the United States for the first time in three years. Relative costs rose slightly in Mexico and Ireland.

In the United States, hourly compensation costs for production workers were \$20.32 in 2001, a 3 percent increase from the 2000 level. The U.S. average costs were higher than the trade-weighted average for Europe and for the combined 29 economies, although five European countries had higher hourly compensation costs than did the United States. Hourly compensation costs fell 1 percent in the combined 29 foreign economies during 2001, following a 2.2 percent increase in 2000, when measured in U.S. dollar terms. Trade-weighted average costs increased 4.2 percent in the foreign economies in 2001, when measured in national currency terms, but the trade-weighted value of the foreign currencies declined 5 percent against the dollar, resulting in the decline in hourly compensation costs on a U.S. dollar basis. The largest decline on a U.S. dollar basis, 15.6 percent, occurred in Brazil (included for the first time in this series), lowering Brazilian costs to 15 percent of the U.S. level. (See table 1.)

**Chart 1. Hourly compensation costs in U.S. dollars for  
production workers in manufacturing, 1975-2001**

Hourly costs



### Compensation costs expressed in U.S. dollars

Cost declines in Europe and the Asian NIEs were moderate in 2001, falling on average only about a half percent each. (NIEs are the newly industrializing economies of Hong Kong SAR, Korea, Singapore, and Taiwan.) Sharp decreases in compensation costs in Australia, Brazil, Japan, and Sweden, however, combined to push costs down 1 percent on average for the 29 foreign economies. In the United States, hourly compensation costs for production workers increased 3 percent in 2001.

Changes over time in compensation costs in U.S. dollars are affected by the underlying national wage and benefit trends measured in national currencies, as well as frequent and sometimes sharp changes in currency exchange rates. A country's compensation costs expressed in U.S. dollars are calculated by dividing compensation costs in national currency by the exchange rate (expressed as national currency units per U.S. dollar).

#### **A note on the measures**

The hourly compensation measures in this news release are based on statistics available to BLS as of July 2002. The 2001 compensation statistics are preliminary measures; for some of the foreign countries, they are based on less than full-year data. These measures are prepared specifically for international comparisons of employer labor costs in manufacturing. The methods used, as well as the results, differ somewhat from those of other BLS series on U.S. compensation costs.

Total compensation costs include pay for time worked, other direct pay (including holiday and vacation pay, bonuses, other direct payments, and the cost of pay in kind), employer expenditures for legally required insurance programs and contractual and private benefit plans, and, for some countries, other labor taxes.

*Labor cost measures.* The compensation measures are computed in national currency units and are converted into U.S. dollars at prevailing commercial market currency exchange rates. They are appropriate measures for comparing levels of employer labor costs, but they do not indicate relative living standards of workers or the purchasing power of their incomes. Prices of goods and services vary greatly among countries, and commercial market exchange rates do not reliably indicate relative differences in prices.

*Data limitations.* Hourly compensation is partly estimated, and data are subject to revision in the next update. The comparative level figures are averages for all manufacturing industries and are not necessarily representative of all component industries.

See the Technical Notes for further information regarding definitions, sources, and computation methods and a description of the trade-weighted measures for economic groups.

**Table A. Hourly compensation costs, in national currency and in U.S. dollars, for production workers in manufacturing and exchange rates (U.S. dollars per national currency unit)**

**Percent change, 2000-2001**

Country or area	Hourly compensation, national currency	Exchange rates	Hourly compensation, U.S. dollars
<b>Americas</b>			
United States	3.0	-	3.0
Brazil	8.5	-22.2	-15.6
Canada	1.6	-4.1	-2.6
Mexico	11.0	1.3	12.5
<b>Asia and Oceania</b>			
Australia	2.2	-11.1	-9.1
Hong Kong SAR <sup>1</sup>	6.1	-.1	5.9
Israel	8.6	-3.1	5.2
Japan	.5	-11.3	-11.0
Korea	9.0	-12.5	-4.6
New Zealand	3.4	-8.0	-4.8
Singapore	8.8	-3.8	4.7
Sri Lanka	-	-	-
Taiwan	5.5	-7.6	-2.6
<b>Europe</b>			
Austria	2.8	-3.0	-.3
Belgium	.5	-3.0	-2.5
Denmark	5.3	-2.8	2.3
Finland	5.7	-3.0	2.5
France	4.5	-3.0	1.4
Germany, former West	2.4	-3.0	-.7
Germany	2.5	-3.0	-.6
Greece	-	-	-
Ireland	9.5	-3.0	6.2
Italy	1.3	-3.1	-1.8
Luxembourg	1.2	-3.0	-1.9
Netherlands	4.3	-3.0	1.2
Norway	5.2	-2.0	3.1
Portugal	-	-	-
Spain	4.2	-3.1	.9
Sweden	2.7	-11.3	-8.9
Switzerland	2.7	.1	2.8
United Kingdom	3.3	-5.0	-1.9
<b>Trade-weighted measures <sup>2,3</sup></b>			
All 29 foreign economies	4.2	-5.0	-1.0
OECD <sup>4</sup>	3.8	-4.7	-1.0
less Mexico, Korea <sup>5</sup>	2.0	-5.5	-3.6
Europe	3.3	-3.5	-.4
Asian NIEs	7.4	-7.3	-.5

<sup>1</sup> Hong Kong Special Administrative Region of China.

<sup>2</sup> Because data for Germany are not available before 1993, data for only the former West Germany are included in the trade-weighted measures.

<sup>3</sup> The 2000-2001 percent changes for the trade-weighted measures are based upon the changes for the countries or areas for which 2001 data are available.

<sup>4</sup> OECD refers to the Organization for Economic Cooperation and Development.

<sup>5</sup> Mexico joined the OECD in 1994 and Korea joined in 1996.

A weakening yen drove Japanese compensation costs in U.S. dollars down 11 percent in 2001, the largest decrease of any country studied except Brazil. (See box below.) Japanese costs fell to \$19.59, 4 percent lower than compensation costs in the United States. (See table A and chart 2.)

In contrast, Mexican compensation costs in U.S. dollars increased by 12.5 percent, the largest percent increase among the 29 foreign economies. As in 2000, Mexican peso appreciation relative to the U.S. dollar and the continuation of fast growth in Mexican compensation costs in pesos led to the large increase. Despite growing at a rate greater than 10 percent over the past three years, Mexican compensation costs were only 12 percent of the U.S. level in 2001.

In 2001, for the first time since the Asian currency crisis in 1997-98, hourly compensation costs in the Asian NIEs did not rise on a U.S. dollar basis. Increases in Hong Kong and Singapore were offset by declining costs in Korea and Taiwan, with the net result that costs in the NIEs fell a half-percent. Costs in Korea are still the highest of the NIEs, at 40 percent of the U.S. level.

#### **Brazil**

Beginning with this release, BLS has prepared measures of hourly compensation costs for Brazil. Because of data limitations, the measures cover only the years 1996-2001. The tabulation below shows hourly compensation costs for Brazil on a national currency basis, a U.S. dollar basis, and as a percentage of the U.S. level.

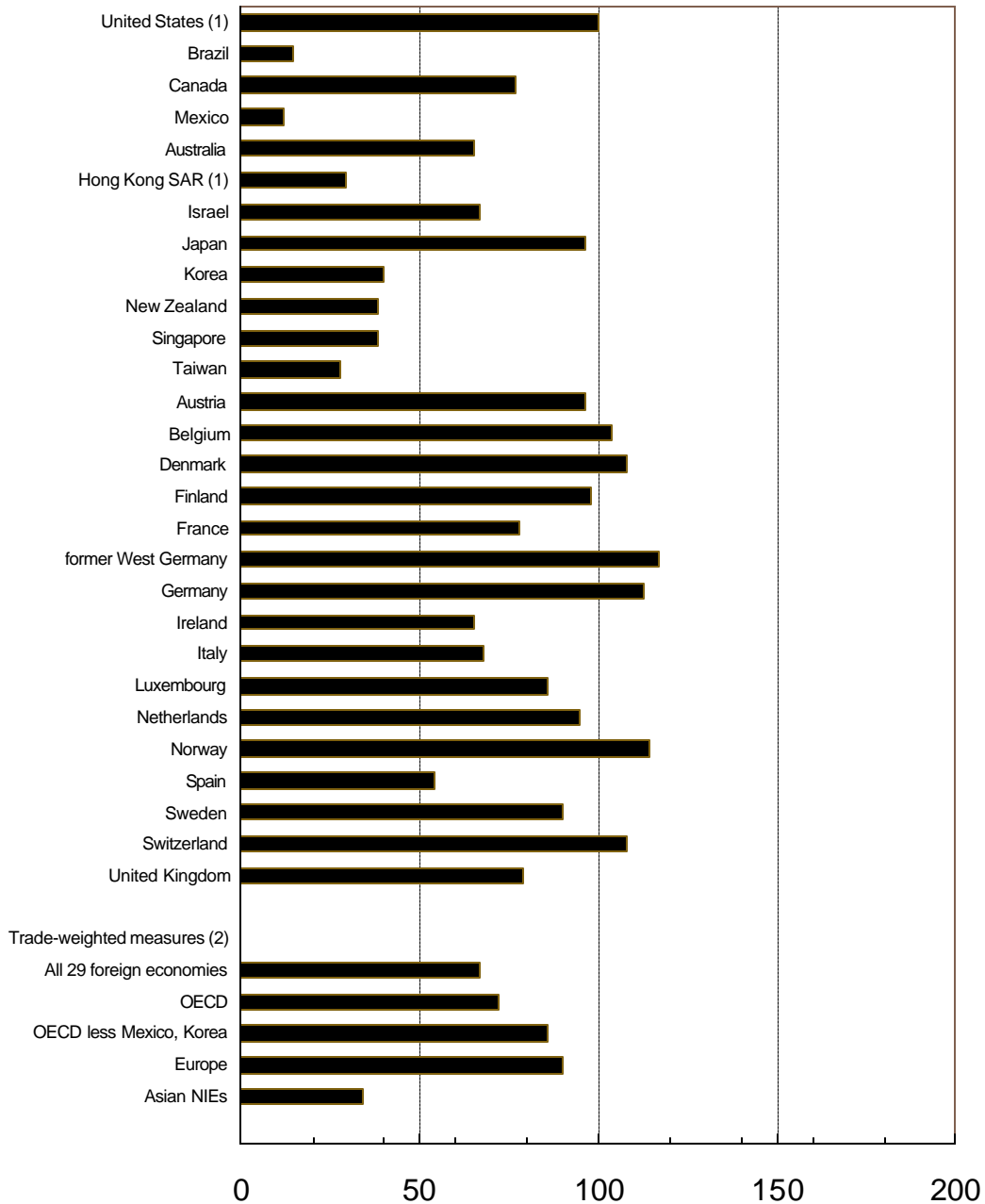
##### Brazil: Hourly Compensation Costs for Production Workers in Manufacturing

Year	National currency basis	U.S. dollar basis	Index (U.S.=100)
1996	5.82	5.79	33
1997	6.31	5.85	32
1998	6.51	5.61	30
1999	6.29	3.46	18
2000	6.55	3.58	18
2001	7.11	3.02	15

Although the European currencies continued to depreciate against the dollar in 2001, they did so at a slower rate than in 2000. The result of this moderation was that, unlike 2000, when compensation costs on a U.S. dollar basis declined in all European countries, about half the European countries showed increases on a U.S. dollar basis in 2001. Costs rose most quickly in Ireland, at 6.2 percent, while costs in Norway and Switzerland were near the 3 percent mark. The largest compensation cost decline in Europe occurred in Sweden, where costs fell 8.9 percent, due primarily to a weak currency.

Average compensation costs in Europe were \$18.38 in 2001, falling 9 cents from 2000. Although compensation costs in U.S. dollar terms have been falling consistently in Europe since peaking at \$21.92 in 1996, average hourly costs in several countries remained above \$20.00 in 2001. Norway and Germany continued to have the highest costs of the 29 foreign economies at approximately \$23.00, while Belgium, Denmark, and Switzerland also had costs higher than \$21.00. (See chart 2.)

**Chart 2. Indexes of hourly compensation costs in U.S. dollars  
for production workers in manufacturing, 2001**  
(U.S. = 100)



(1) For 2001, U.S. hourly compensation costs were \$20.32. Hong Kong became a Special Administrative Region (SAR) of China in July 1997.

(2) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures. The trade-weighted measures include Greece, Portugal, and Sri Lanka, which are not shown on this chart because 2001 data were not available. OECD refers to the Organization for Economic Cooperation and Development. Mexico joined the OECD in 1994, and Korea joined in 1996.

### Compensation costs expressed in national currencies

For U.S. competitors, compensation costs in national currency grew at a slightly lower rate in 2001 than in 2000. The trade-weighted average cost increased 4.2 percent for the foreign economies in 2001, compared with 4.4 percent in 2000. In 16 of the 26 foreign countries for which data were available, compensation costs grew at a faster rate in 2001 than in the previous year. The overall rate of growth for the foreign economies declined, however, partly due to lower hourly compensation growth rates in three of the four countries that contributed the largest shares to the trade-weighted average--Canada, Mexico, and Germany.

The growth rate of compensation costs in Asia and Oceania increased for every economy, with the exception of Korea; however, the rate of growth in Korea remained the fastest of any of these countries. Cost growth in the Asian NIEs averaged 7.4 percent in 2001, the fastest rate of growth since before the Asian currency crisis of 1997-98. For the first time in three years, compensation costs in Japan rose, although the half-percent increase was the lowest (along with Belgium) of the countries studied. Japanese compensation costs have increased only 0.6 percent since 1997.

Compensation costs in Europe grew at about the same rate, 3.3 percent, in 2001 as in 2000. The rate of growth topped 4 percent in seven of the European countries, with the largest increase in Ireland (9.5 percent). That was the largest increase in that country since 1984 and the largest for a European country since 1997.

In the Western Hemisphere, compensation cost growth moderated in both Canada and Mexico in 2001. While the 11 percent increase in Mexico was the highest of all countries studied, it was the lowest increase in Mexico since 1994. Cost growth in Brazil also was high in 2001, at 8.5 percent, the first time since 1997 that it reached that level.

## Exchange rates

Appreciation of the dollar against the currencies of most foreign countries continued in 2001, and at a greater rate than in 2000. The trade-weighted value of the currencies of the 29 foreign economies declined 5 percent against the dollar in 2001. The decline of foreign currencies was widespread in 2001, with only the Mexican peso showing any appreciable increase in value against the dollar. Currencies in Hong Kong and Switzerland in 2001 remained at about the same levels as in 2000.

The European currencies depreciated against the U.S. dollar in 2001 for the sixth consecutive year. The decline, however, was just 3.5 percent, much smaller than the 11.6 percent drop in 2000. The currencies pegged to the euro declined only about 3 percent, but weak currencies in the United Kingdom (5 percent decline) and Sweden (11.3 percent drop) pushed the trade-weighted average for Europe down. The trade-weighted value of the European currencies has fallen nearly 24 percent since its peak in 1995.

Asian currencies depreciated in 2001 after increasing in value in 2000. Currency values in the Asian NIEs fell a trade-weighted average of 7.3 percent, led by a 12.5 percent drop in the value of the Korean won. The value of the Japanese yen also fell sharply, down 11.3 percent.

### **A note on European exchange rates for 1999-2001**

On January 1, 1999, several European countries joined the European Monetary Union (EMU): Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. At the same time, currencies of EMU members were established at fixed conversion rates to the euro, the official currency of the EMU. Exchange rates between the national currencies of EMU countries and the U.S. dollar are no longer reported; only the exchange rate between the euro and the U.S. dollar is available.

In this news release, exchange rates for 1999-2001 in national currencies are calculated for the EMU countries by taking the number of euros per U.S. dollar and then converting euros into national currencies at the fixed conversion rates. The following are the fixed conversion rates between national currencies and the euro for the EMU countries in this release:

<i>1 euro</i>	<i>= 13.7603 Austrian Schillings</i>
	<i>= 40.3399 Belgian Francs</i>
	<i>= 5.94573 Finnish Markkas</i>
	<i>= 6.55957 French Francs</i>
	<i>= 1.95583 German Marks</i>
	<i>= .787564 Irish Pounds</i>
	<i>= 1936.27 Italian Lire</i>
	<i>= 40.3399 Luxembourg Francs</i>
	<i>= 2.20371 Netherlands Guilders</i>
	<i>= 200.482 Portuguese Escudos</i>
	<i>= 166.386 Spanish Pesetas</i>

In 2001, 1 euro was equal to 0.8952 U.S. dollars.

The country with the largest drop in the value of its currency in 2001 was Brazil. The real fell 22.2 percent against the dollar. Since 1996, the first year for which hourly compensation data are available for Brazil, the real has lost 57 percent of its value. As a result, hourly compensation costs in Brazil have fallen from 33 percent of the U.S. level in 1996 to only 15 percent of the U.S. level in 2001.

The movements of the foreign currencies relative to the U.S. dollar in 2001 had a significant influence on hourly compensation costs measured in U.S. dollars. Hourly compensation costs on a national currency basis in the 29 foreign economies rose 4.2 percent, but, when adjusted for a 5 percent depreciation of the foreign currencies against the U.S. dollar, those costs actually decreased 1 percent. The effect that exchange rate changes can have on hourly compensation costs is particularly evident when comparing European labor costs with those of the Asian NIEs. On a national currency basis, the increase in hourly compensation costs in the Asian NIEs was 4 percentage points higher than the increase in Europe. When adjusted for changes in exchange rates, however, costs on a U.S. dollar basis declined by approximately the same amount in both regions.

#### New trade weights and trade-weighted measures

The trade weights used to compute the average compensation cost measures for selected economic groups are new weights based on the sum of U.S. imports of manufactured products for consumption (customs value) and U.S. exports of domestic manufactured products (f.a.s. values) for each country or area and each economic group in 1999. Previously, 1992 weights had been used.

Table B shows the share of U.S. manufactured goods trade for the 29 countries or areas covered in the hourly compensation series and selected economic groups in 1999. The table also shows the 1992 weights. The 29 economies accounted for 82.2 percent of total U.S. manufactured goods trade in 1999. The only countries not covered that accounted for as much as 1 percent of such trade are China (6.1 percent), Malaysia (2 percent), the Philippines (1.3 percent), and Thailand (1.2 percent).

**Table B. Share of total U.S. imports and exports of manufactured products in 1992 and 1999**  
(in percent)

Country or area and economic group	1992 trade share	1999 trade share	Country or area and economic group	1992 trade share	1999 trade share
Brazil	-	1.5	Greece	.1	.1
Canada	19.2	21.5	Ireland	.6	1.1
Mexico	7.6	11.8	Italy	2.3	2.0
			Luxembourg	.1	.1
Australia	1.4	1.0	Netherlands	1.9	1.6
Hong Kong SAR <sup>1</sup>	2.0	1.5	Norway	.3	.2
Israel	.8	1.1			
Japan	15.8	11.8	Portugal	.3	.2
Korea	3.4	3.4	Spain	.8	.7
New Zealand	.3	.2	Sweden	.8	.8
Singapore	2.4	2.2	Switzerland	1.0	1.1
Sri Lanka	.1	.1	United Kingdom	4.4	4.6
Taiwan	4.4	3.4			
			<b>Economic groups</b>		
Austria	.3	.4	29 foreign		
Belgium	1.5	1.3	Economies <sup>3</sup>	80.8	82.2
Denmark	.3	.3	OECD <sup>4</sup>	71.1	72.5
Finland	.2	.3	Europe	23.4	22.6
France	3.2	2.7	European Union	22.1	21.4
Germany <sup>2</sup>	5.4	5.2	Asian NIEs	12.2	10.5

(1) Hong Kong Special Administrative Region of China.

(2) Former West Germany.

(3) 28 foreign economies (not including Brazil) for 1992.

(4) Organization for Economic Cooperation and Development. Mexico joined the OECD in 1994 and Korea joined in 1996.

The 1999 trade weights raise the relative importance of Mexico by about 4 percentage points and of Canada by a little over 2 percentage points. The relative importance of Japan declined about 4 percentage points, and Taiwan's relative importance dropped 1 percentage point. The trade weights in the remaining countries or areas did not show large changes. The trade shares for Europe and the Asian NIEs declined by about 1 and 2 percentage points, respectively.

Of the countries studied, Canada is the U.S. trading partner with the largest trade share (21.5 percent), followed by Japan and Mexico (11.8 percent each), and Germany (5.2 percent).

Table C provides a comparison of U.S. hourly compensation costs with trade-weighted hourly compensation costs in the 26 countries or areas for which 2001 data are available, using the 1992 and 1999 trade weights. The new trade weights have little effect on the trade-weighted averages of Europe or the Asian NIEs, but do lower the relative level of average compensation costs in the 28 economies. The lower level is due primarily to the increase in the weights of Canada and Mexico and the decrease in the weight for Japan.

**Table C. Hourly compensation costs for production workers in manufacturing, 2001**

Economic group	Using 1992 trade shares	Using 1999 trade shares
<i>Index: U.S.=100</i>		
28 foreign economies <sup>1</sup>	71	68
OECD	77	72
less Mexico, Korea	87	86
Europe	91	90
Asian NIEs	34	34
.....		
<i>Hourly Compensation Costs in U.S. Dollars</i>		
28 foreign economies <sup>1</sup>	\$14.51	\$13.81
OECD	15.55	14.56
less Mexico, Korea	17.65	17.47
Europe	18.39	18.38
Asian NIEs	6.82	6.95
<i>Pct. Change 2000-2001: Hourly Compensation Costs in U.S. Dollars</i>		
28 foreign economies <sup>1</sup>	-1.9	-.7
OECD	-2.4	-1.0
less Mexico, Korea	-4.1	-3.6
Europe	-.5	-.4
Asian NIEs	-.3	-.5
<i>Pct. Change 2000-2001: Hourly Compensation Costs in National Currency</i>		
28 foreign economies <sup>1</sup>	3.7	4.1
OECD	3.2	3.8
less Mexico, Korea	1.9	2.0
Europe	3.1	3.3
Asian NIEs	7.2	7.4

(1) Not including Brazil.

Trends in trade-weighted hourly compensation in U.S. dollar terms over the 1975-2001 period were affected in a similar manner. Trends in the Asian NIEs and Europe were virtually the same using both the 1992 and the 1999 trade weights, but the trend for 28 foreign countries or areas (not including Brazil) was 0.5 percentage points lower using the 1999 weights.

The addition of Brazil to the BLS measures had a small effect on the trade-weighted averages. The following tabulation shows trade-weighted averages in 2001, using 1999 trade shares for all foreign economies both including Brazil and excluding Brazil.

	29 foreign economies	28 foreign economies
Index: United States = 100	67	68
Hourly compensation costs in U.S. dollars, 2001	13.61	13.81
Pct. Change, 2000-2001: U.S. dollar hourly comp. costs	-1.0	-0.7
Pct. Change, 2000-2001: national currency hourly comp. costs	4.2	4.1
Pct. Change, 2000-2001: exchange rates	-5.0	-4.7

Additional data available

In addition to the compensation cost measures covered in this news release, data are available for comparative levels of hourly compensation costs, hourly direct pay, pay for time worked, and the structure of compensation in manufacturing for all years from 1975 through 2001.

BLS also computes comparative measures for 39 component manufacturing industries. Data through 1998 are available upon request and via the Internet (<http://www.bls.gov/fls>). Data for the component industries are not included in this release; in general, the data limitations for them are greater than for total manufacturing.

For further information, contact the Office of Productivity and Technology, Bureau of Labor Statistics, 2 Massachusetts Avenue, NE, Room 2150, Washington, DC 20212, or call 202-691-5654.

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### **Revised Measures**

The hourly compensation measures are subject to revision in future updates. In this update, revisions of particular note were made for the following countries:

For the United States, data back to 1997 were revised to incorporate 1997-2000 data on non-wage compensation costs from the Annual Survey of Manufactures.

For Europe, 1996 labor cost survey (LCS) data from the Statistical Office of the European Communities (EUROSTAT) were incorporated for the following countries: Denmark, France, Greece, Luxembourg, Netherlands, Spain, and the United Kingdom. 1996 LCS data had already been incorporated in previous versions of this news release for Belgium, Germany, and Ireland.

For Mexico, revisions were made back to 1993 to incorporate benchmark data from the 1998 Industrial Census. In addition, revisions to annual data from the Monthly Industrial Survey that are used to update measures for non-census years were also incorporated.

For Australia, revisions were made back to 1985 to incorporate new data on earnings of adult workers and all non-managerial employees.

For Hong Kong, there was an increase in social insurance costs in 2001 to reflect the December 2000 implementation of a Mandatory Provident Fund. In addition, there was a minor revision to social insurance costs back to 1986 to incorporate new estimates of non-wage compensation costs.

For Taiwan, data were revised for all years back to 1975 to incorporate new data received from the Directorate-General of Budget, Accounting and Statistics in Taiwan.

For Belgium, data for 2000 and 2001 were adjusted to account for the payback of Maribel subsidies by firms that had previously received subsidy payments in the 1990s. Most of the payback occurred in 2000, with smaller amounts to be paid back in 2001 and 2002.

For Finland, revisions were made back to 1994 to incorporate new data received on pay for time not worked and social insurance costs. The previous hourly compensation series for Finland was linked to the new series at 1994, resulting in slightly higher compensation levels for Finland back to 1975.

For Italy, revisions back to 1997 were made to incorporate new information received on pay for time not worked.

For Norway, new estimates of hourly earnings for production workers were constructed back to 1998 using data from the Wage Statistics Survey.